

**PATENT COOPERATION TREATY**

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

**PCT**

*Translation*

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

		Date of mailing (day/month/year)	<b>See Form PCT/ISA/210 (sheet 2)</b>
Applicant's or agent's file reference <b>A 394</b>		FOR FURTHER ACTION See paragraph 2 below	
International application No. <b>PCT/DE2004/002347</b>	International filing date (day/month/year) <b>20.10.2004</b>	Priority date (day/month/year) <b>22.10.2003</b>	
International Patent Classification (IPC) or both national classification and IPC <b>C08L101/00, C09K11/77</b>			
Applicant <b>STUDIENGESELLSCHAFT KOHLE MBH</b>			

<p>1. This opinion contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the opinion</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul> <p>2. <b>FURTHER ACTION</b></p> <p>If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.</p> <p>If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.</p> <p>For further options, see Form PCT/ISA/220.</p> <p>3. For further details, see notes to Form PCT/ISA/220.</p>
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Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.  
PCT/DE2004/002347

Box No. I	Basis of this opinion
<p>1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.</p> <p><input type="checkbox"/> This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).</p> <p>2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:</p> <p>a. type of material</p> <p><input type="checkbox"/> a sequence listing</p> <p><input type="checkbox"/> table(s) related to the sequence listing</p> <p>b. format of material</p> <p><input type="checkbox"/> in written format</p> <p><input type="checkbox"/> in computer readable form</p> <p>c. time of filing/furnishing</p> <p><input type="checkbox"/> contained in the international application as filed.</p> <p><input type="checkbox"/> filed together with the international application in computer readable form.</p> <p><input type="checkbox"/> furnished subsequently to this Authority for the purposes of search.</p> <p>3. <input type="checkbox"/> In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.</p> <p>4. Additional comments:</p>	

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Box No. V	<u>Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</u>																									
<p><b>1. Statement</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; padding-right: 10px;">Novelty (N)</td> <td style="width: 60%; padding-right: 10px;">Claims</td> <td style="width: 20%;"><u>8-13</u></td> <td style="width: 20%; text-align: right;">YES</td> </tr> <tr> <td></td> <td>Claims</td> <td><u>1-7, 14, 15</u></td> <td style="text-align: right;">NO</td> </tr> <tr> <td style="padding-top: 10px;">Inventive step (IS)</td> <td>Claims</td> <td><u>8-13</u></td> <td style="text-align: right;">YES</td> </tr> <tr> <td></td> <td>Claims</td> <td><u>1-7, 14, 15</u></td> <td style="text-align: right;">NO</td> </tr> <tr> <td style="padding-top: 10px;">Industrial applicability (IA)</td> <td>Claims</td> <td><u>1-15</u></td> <td style="text-align: right;">YES</td> </tr> <tr> <td></td> <td>Claims</td> <td></td> <td style="text-align: right;">NO</td> </tr> </table> <p><b>2. Citations and explanations:</b></p> <p>Reference is made to the following documents:</p> <p style="margin-left: 40px;">D1: WO 00/56837</p> <p style="margin-left: 40px;">D2: US 6596600 B1</p> <p class="list-item-l1">1. The present application does not meet the requirements of PCT Article 33(1), because the subject matter of claims 1-7, 14, 15 is not novel within the meaning of PCT Article 33(2).</p> <p class="list-item-l1">2. Document D1 discloses a luminescent composite material containing nanoparticles and luminescent devices produced therefrom (page 2, lines 2-22; page 9, lines 13-23; page 5, lines 23-29; page 9, line 29 to page 10, line 6; claims). The above-mentioned nanoparticles are preferably lanthanide-doped phosphors (page 3, lines 19-23; examples 1 and 2, table 1). The subject matter of claims 1, 2, 4, 6, 14, 15 is not novel with respect to D1.</p> <p class="list-item-l1">3. Document D2 discloses a polycarbonate plastic glass which contains ZnS nanoparticles (column 11, line 65</p>			Novelty (N)	Claims	<u>8-13</u>	YES		Claims	<u>1-7, 14, 15</u>	NO	Inventive step (IS)	Claims	<u>8-13</u>	YES		Claims	<u>1-7, 14, 15</u>	NO	Industrial applicability (IA)	Claims	<u>1-15</u>	YES		Claims		NO
Novelty (N)	Claims	<u>8-13</u>	YES																							
	Claims	<u>1-7, 14, 15</u>	NO																							
Inventive step (IS)	Claims	<u>8-13</u>	YES																							
	Claims	<u>1-7, 14, 15</u>	NO																							
Industrial applicability (IA)	Claims	<u>1-15</u>	YES																							
	Claims		NO																							

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to column 13, line 40, example 2 in table 1).

Claims 1-5, 7 are also not novel with respect to D2.

4. Document D1 is considered the closest prior art to the subject matter of claims 8-13. However, D1 gives only a general indication as to the process for producing the luminescent plastic glass, according to which any process known to a person skilled in the art is suitable. Therefore, the subject matter of claims 8-13 is novel within the meaning of PCT Article 33(2).
  
5. The processes which are known to a person skilled in the art, however, normally consist in the particles being mixed with the polymer melt in a kneader or extruder. In the process of claim 8, by contrast, the particles are first of all mixed with a polymer precursor or a solution of the polymer precursor, before the mixture obtained is then polymerized. This solution involves an inventive step, because a person skilled in the art will not find any suggestion in D1 which leads to the process according to claim 8. Therefore, claims 8-13 involve an inventive step within the meaning of PCT Article 33(3).